

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231

**DECLARATION**

Re: Application of Darrel Meyer  
Serial No.: Divisional of 09/890514  
Filed: October 12, 2001  
Titled: Weight Bearing Systems and methods Relating to Same

I, the undersigned, SANJAY MISHRA, hereby declare as follows:

Darrel Meyer personally contacted me on or around July 3, 1996 to perform load testing for weight bearing systems ("the invention").

Darrel Meyer made no offer to sell the Invention to me.

I have reviewed U.S. Patent no 6,131,362 and find the subject matter of the claims to be consistent with the Invention I tested for Darrel Meyer on or around July 1996.

I hereby declare under the laws of United States of America that all statements made herein of my own knowledge are true and that statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, Section 1001, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Executed at LONG BEACH, CALIFORNIA this 18 day of May, 07.

By: 

Radco

Title: VICE PRESIDENT

Respectfully submitted,  
Fish & Associates, LLP

Dated: \_\_\_\_\_

By: \_\_\_\_\_



**SANJAY "JAY" MISHRA**  
Vice President

3220 E. 59TH STREET  
LONG BEACH, CA 90805  
[www.RADCOINC.com](http://www.RADCOINC.com)

PH: (562) 272-7231  
FAX: (562) 529-7513  
E-mail: [jmishra@radcoinc.com](mailto:jmishra@radcoinc.com)

RADCO

**RADCO TEST REPORT**  
Test Report No. RAD-1777  
Project No. C-6129

Static Load Test on Truss Assembly

Prepared for

**TRUSSTEEL**  
18 Vista Encanta  
San Clemente, CA 92706

by

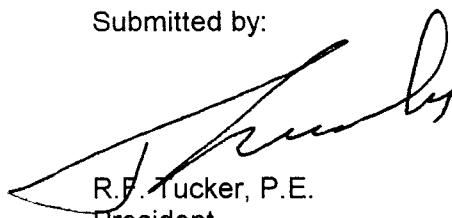
**R A D C O**  
Resources, Applications, Designs and Controls, Inc.  
Listing and Testing Division  
3220 E. 59th Street  
Long Beach, CA 90805  
Telephone: 310-272-7231  
Facsimile: 310-529-7513

Prepared by:



Sanjay "Jay" Mishra, Director  
Testing Laboratories & Code Interface Services

Submitted by:



R.F. Tucker, P.E.  
President

Issued: October 1996

RADCO reports are for the exclusive use of the client to whom they are addressed. Permission is granted to reproduce this report provided it is reproduced in its entirety. The use of the name RADCO (Resources Applications, Designs and Controls, Inc.) in any advertising or related materials must receive prior written approval from RADCO. Reports apply only to samples tested at the time of testing and are not necessarily indicative of the quality of apparently identical or similar products. This report contains confidential information intended for the sole use of the addressee. Transmittal by facsimile is prohibited without the express approval and concurrence of the addressee.

## TABLE OF CONTENTS

1.0	INTRODUCTION .....	1
2.0	TEST SETUP .....	1
3.0	TEST PROCEDURE .....	1
4.0	TEST RESULTS .....	1
5.0	CONCLUSION .....	1

## APPENDIX

Load vs. Deflection Data (A-1)  
Load vs. Deflection Charts (A2 to A-4)  
Figure 1: Truss Assembly Details (A-5)  
Photographs (A-6 to A-8)

## 1.0 INTRODUCTION

At the request of Trussteel, RADCO conducted a static load test on a truss assembly described below in accordance ASTM E 73-83 (reapproved 1991), "Static Load Testing of Truss Assemblies."

## 2.0 TEST SETUP

The test specimen consisted of three (3) trusses assembled and held together using end caps and cross bracing at the quarter points. The trusses were submitted and assembled by Trussteel. A  $\frac{3}{4}$ " plywood deck was fastened to the top chord of the trusses to provide the loading platform.

## 3.0 TEST PROCEDURE

The load was applied using 70 lbs. lead ingots. The ingots were placed on the plywood deck at preset locations which were selected to create a uniform loading condition at every increment of load application. Deflection measurements were taken along the bottom chord at midspan and at quarter points of each truss. Deflection gauges accurate to a minimum of 0.001" were used.

The load was applied in preset increments of  $\frac{1}{4}$  live load up to live load. The load was removed after the live load was applied. The test specimen was then reloaded to live load and then to  $1.50 \times$  live load. The load was held for 5 minutes at each load increment. Deflection readings were taken immediately when any load was applied, and after the 5 minute period, and at zero load.

The exact area of the plywood deck area (under load) was 118.0 square feet (48" wide and 236" long i.e. 19 ft. 8" long). The table in the Appendix shows the nominal loads in 10 psf increments, and the actual loads. A chart of load vs. deflection for each truss is also shown.

## 4.0 TEST RESULTS

At 8,400 lbs. of dead load or 71.186 psf, one web on one outer truss 20" in from the end started to buckle and deform. At this point the loading was continued to the next increment, and at 8,820 lbs. of dead load or at 74.746 psf, a second web on the same truss and 39" from the same end started to deform and buckle. The test was concluded at this point.

## 5.0 CONCLUSION

Ultimate load at failure of the truss assembly described above when tested in accordance with ASTM E-73-83 (reapproved 1991) was 71.186 psf.

## APPENDIX

Load vs. Deflection Data (A-1)  
Load vs. Deflection Charts (A2 to A-4)  
Figure 1: Truss Assembly Details (A-5)  
Photographs (A-6 to A-8)

CLIENT: TRUSSSTEEL

RAD-1777

## STATIC LOAD TESTING OF TRUSS ASSEMBLIES, ASTM E-73-83 (Reapproved 1991)

Date:	Jul 3, 1996										
Time:	1:30 PM										
Specimen Size:	4ft.x19ft.8" (236")										
Wt. of Lead Ingots	70 lbs. each										
Specimen Type:	Steel Truss										
Actual Loading Area:	118 sq. ft.										
Failure Load: (lbs.)	8,400										
Failure Load: (psf)	71.186										
Applied Load	psf (nominal)	P1	P2	P3	P4	P5	P6	P7	P8	P9	Actual Load
Live load increments											psf
Initial (zero load)	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
0.25 Live Load	10 psf	0.1179	0.1700	0.1251	0.1245	0.1747	0.1381	0.1340	0.1820	0.1360	1260
After 5 min. hold		0.1181	0.1700	0.1251	0.1252	0.1747	0.1381	0.1340	0.1820	0.1360	10,678
0.5 Live Load	20 psf	0.2414	0.3424	0.2514	0.2594	0.3501	0.2727	0.2480	0.3500	0.2630	2520
After 5 min. hold		0.2442	0.3441	0.2531	0.2619	0.3515	0.2754	0.2450	0.3520	0.2640	21,356
0.75 Live Load	30 psf	0.3613	0.5024	0.3694	0.3858	0.5235	0.4061	0.3750	0.5320	0.3970	3780
After 5 min. hold		0.3648	0.5053	0.3712	0.3878	0.5239	0.4086	0.3770	0.5350	0.3980	32,034
Live Load	40 psf	0.4917	0.6762	0.4986	0.5187	0.6987	0.5399	0.4920	0.6950	0.5160	4830
After 5 min. hold		0.4973	0.6840	0.5047	0.5234	0.7022	0.5448	0.4950	0.6990	0.5170	40,932
Load Removed	Zero Load	0.0530	0.0490	0.0434	0.0131	0.0341	0.0337	0.0170	0.0290	0.0180	0
After 5 min. hold		0.0342	0.0490	0.0414	0.0123	0.0328	0.0329	0.0150	0.0290	0.0170	0
Live Load	40 psf	0.5174	0.6761	0.5086	0.5294	0.7138	0.5506	0.5000	0.7170	0.5050	4830
After 5 min. hold		0.5183	0.6770	0.5095	0.5303	0.7149	0.5513	0.5020	0.7200	0.5070	40,932
1.50 Live Load	60 psf	0.7678	0.9551	0.7634	0.7861	1.0518	0.8132	0.7320	1.0340	0.7370	7350
After 5 min. hold		0.7757	0.9636	0.7757	0.7939	1.0619	0.8225	0.7390	1.0430	0.7420	62,288

## Mode of Failure:

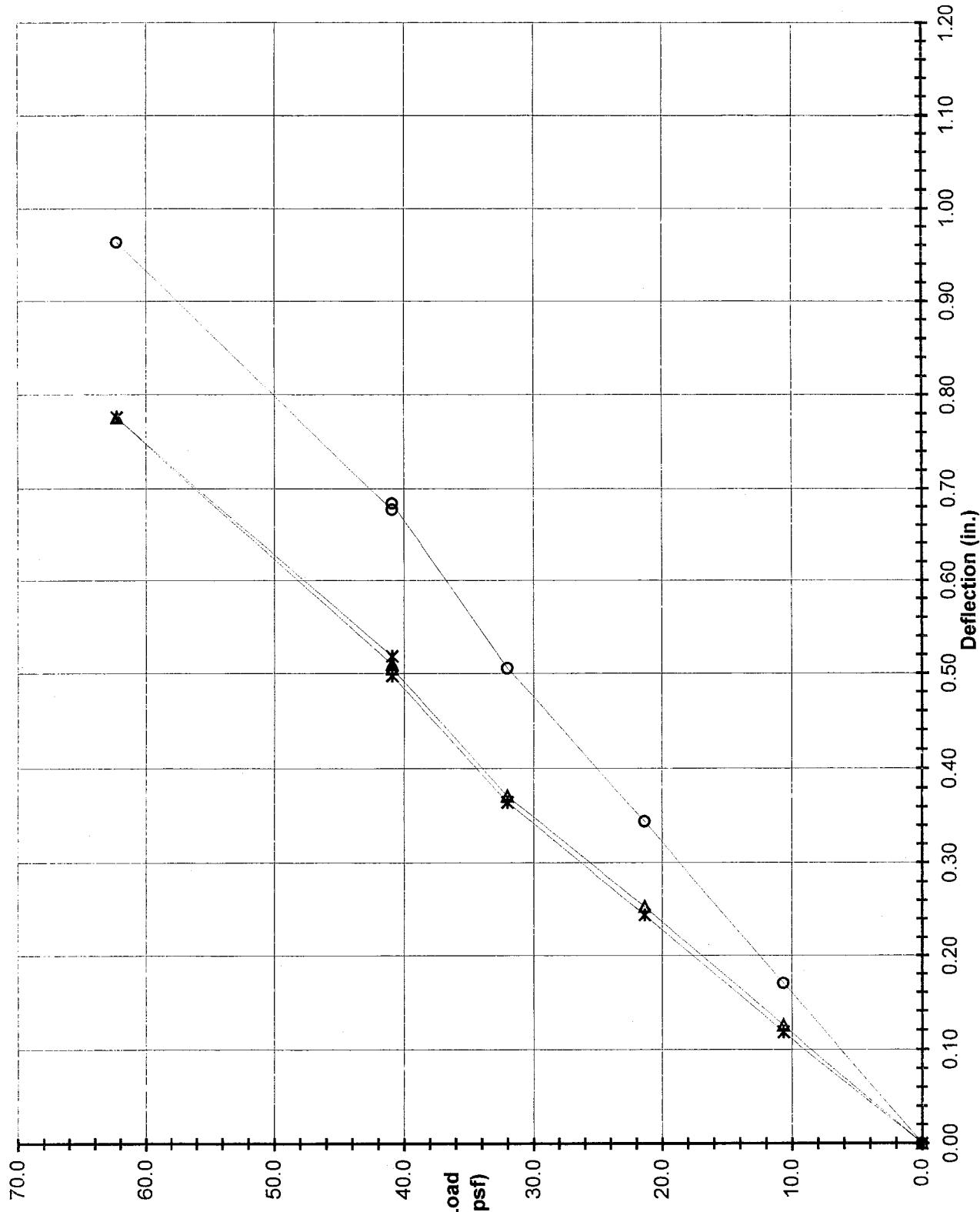
One web 20" from one end (the full web end) on one outer truss started to deform and buckle when an evenly distributed load of 120 pcs. of lead ingots was applied i.e. 8,400 lbs. or 71.186 psf.

A second web 39" from the same end (the full web end) on the same outer truss started to deform and buckle when an evenly distributed load of 126 pcs. was applied i.e. 8,820 lbs. or 74.746 psf. The test was concluded at this point.

## Chart No. 1: Load Vs. Deflection - Truss No. 1

RAD-1777

\* Dial P1 o Dial P2 △ Dial P3



## Chart No. 2: Load Vs. Deflection - Truss No. 2

RAD-1777

\* Dial P4    o Dial P5    △ Dial P6

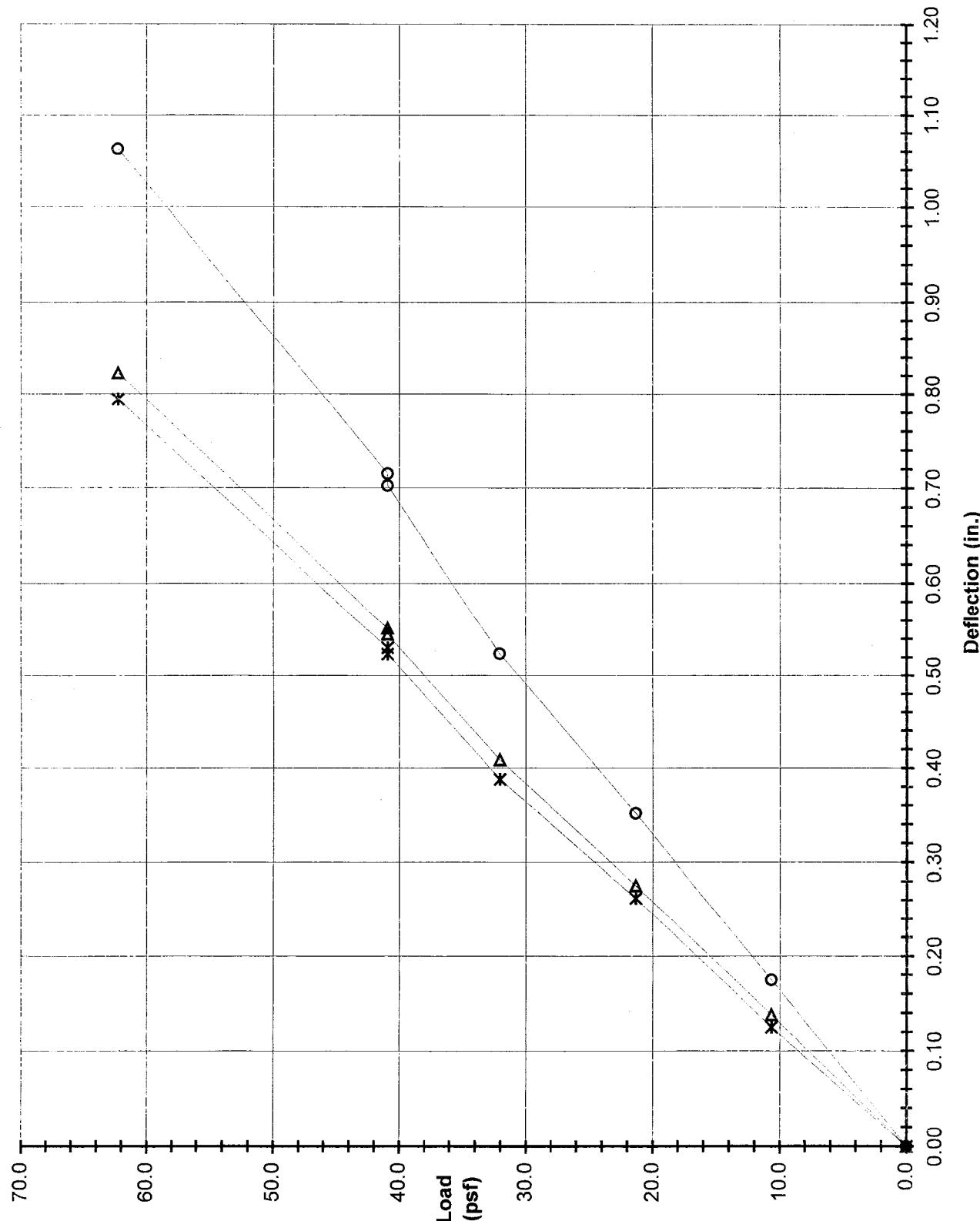
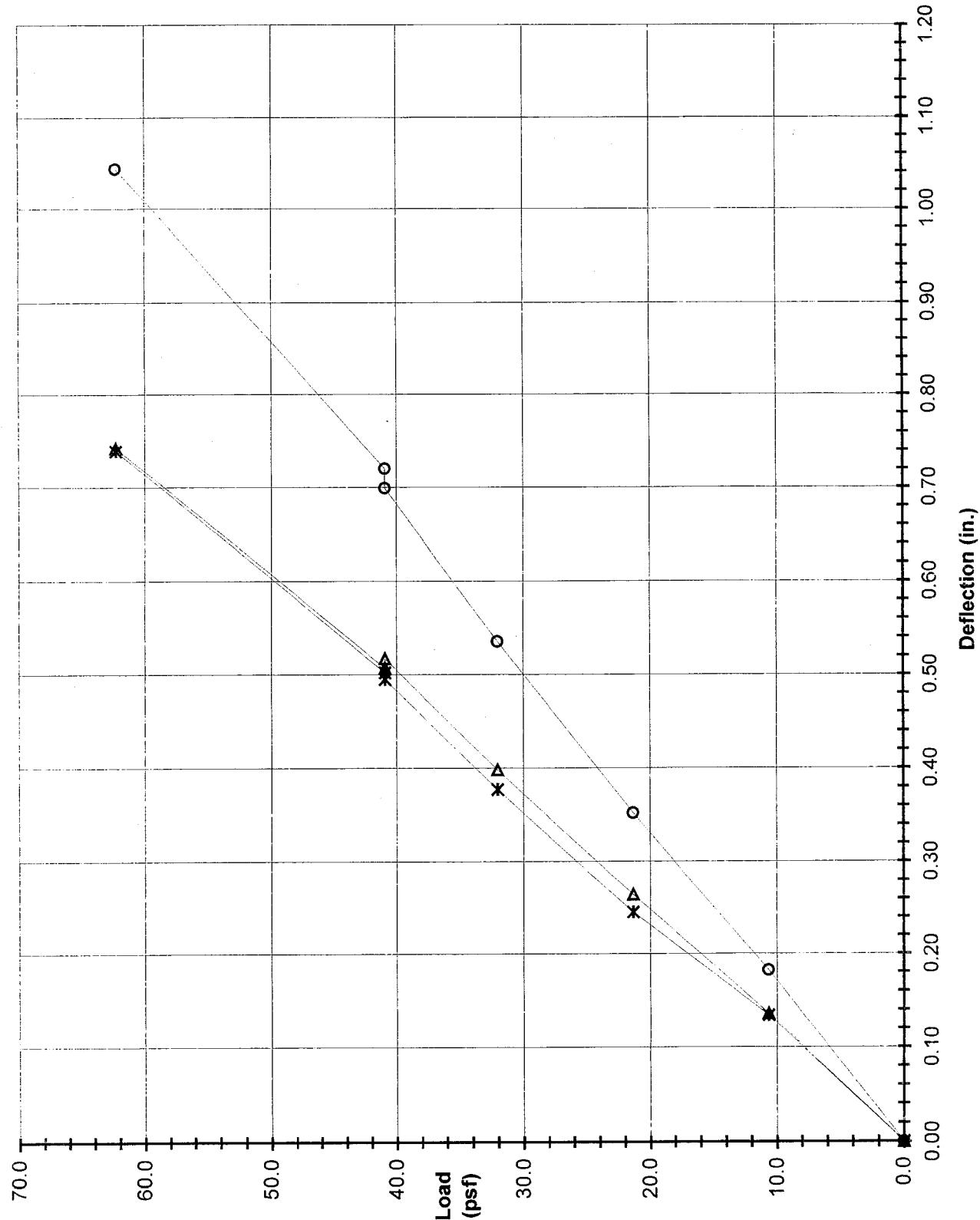


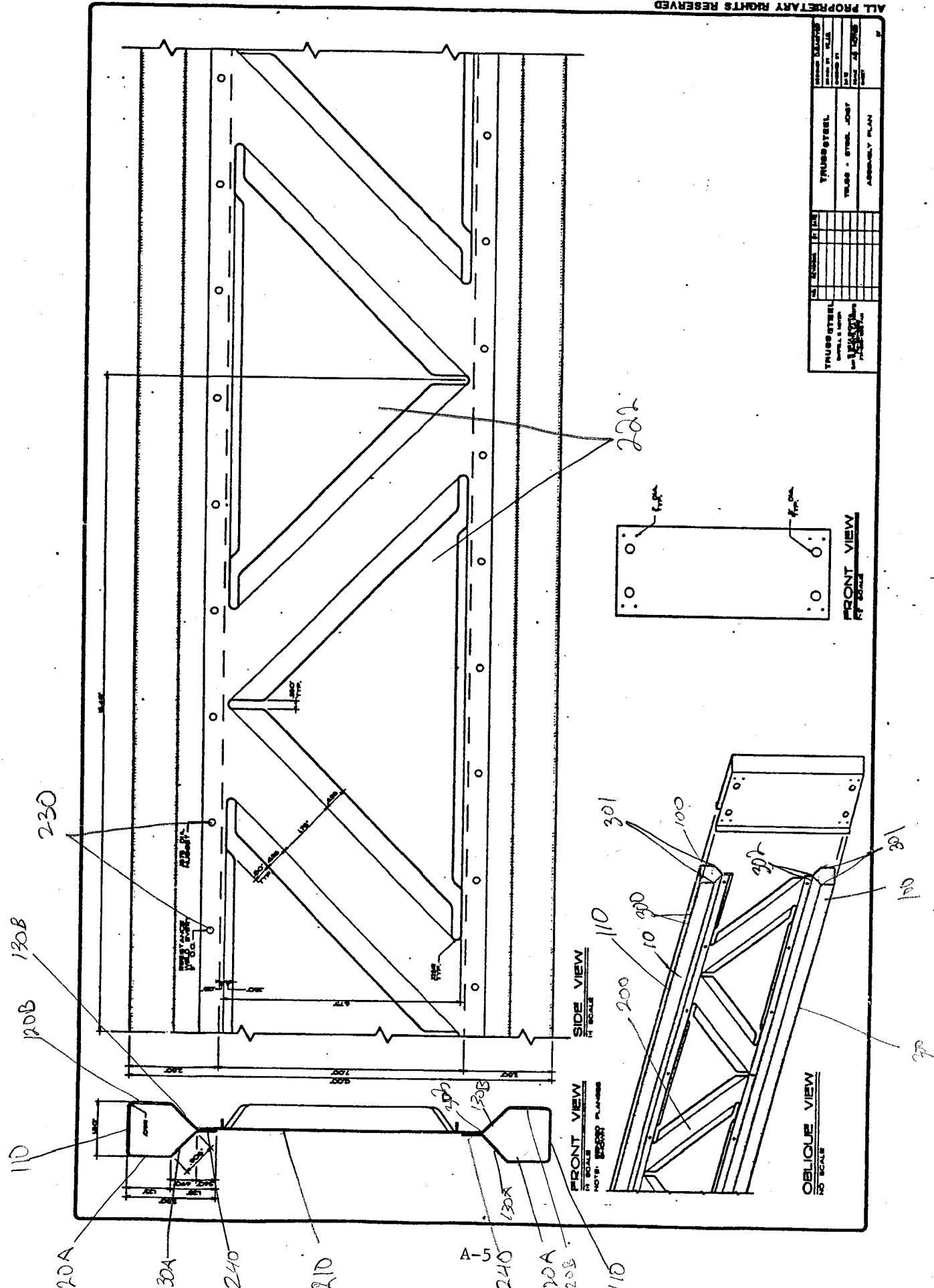
Chart No. 3: Load Vs. Deflection - Truss No. 3

RAD-1777

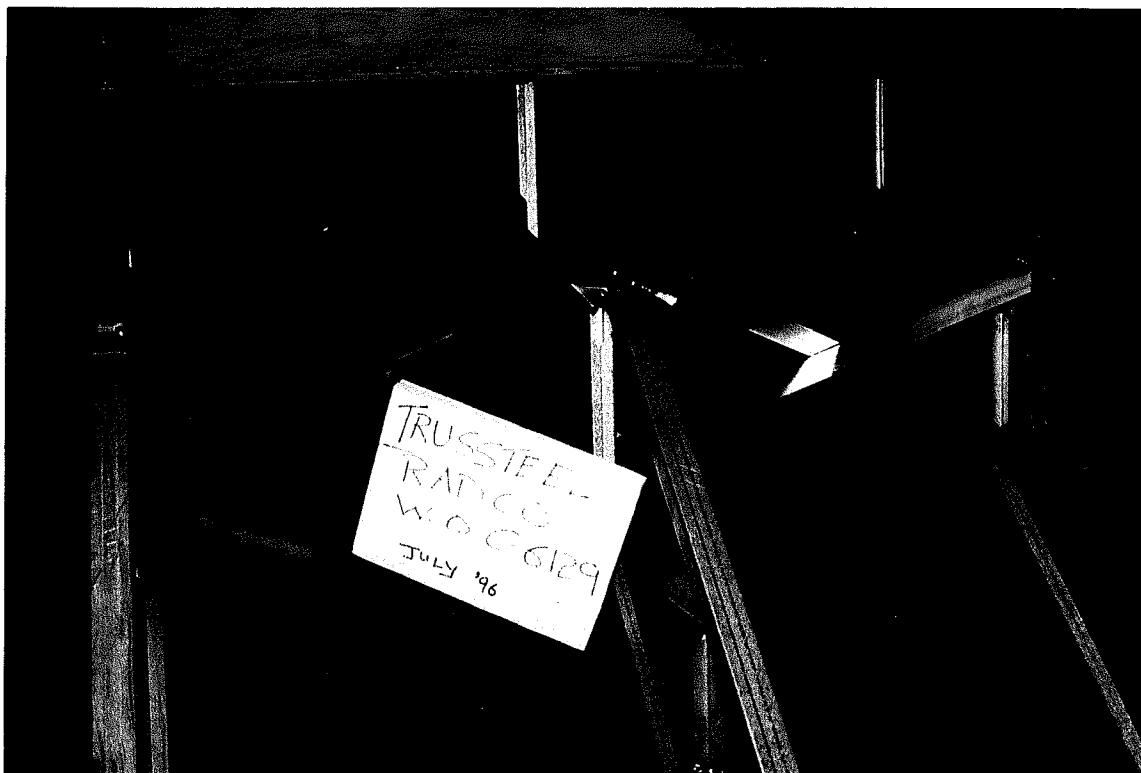
\* Dial P7    o Dial P8    △ Dial P9



ALL PROPERTY RIGHTS RESERVED



## TYPICAL CROSS BRACING OF THE THREE TRUSSES



## DIGITAL DIAL INDICATOR MEASURING DEFLECTION OF BOTTOM CHORD



RAD-1777

**VIEW OF LEAD INGOTS ARRANGED ON THE PLYWOOD DECK**



RAD-1777

ONE WEB 20" FROM THE END ON ONE OUTER TRUSS STARTED TO BUCKLE @ 71.186 PSF

